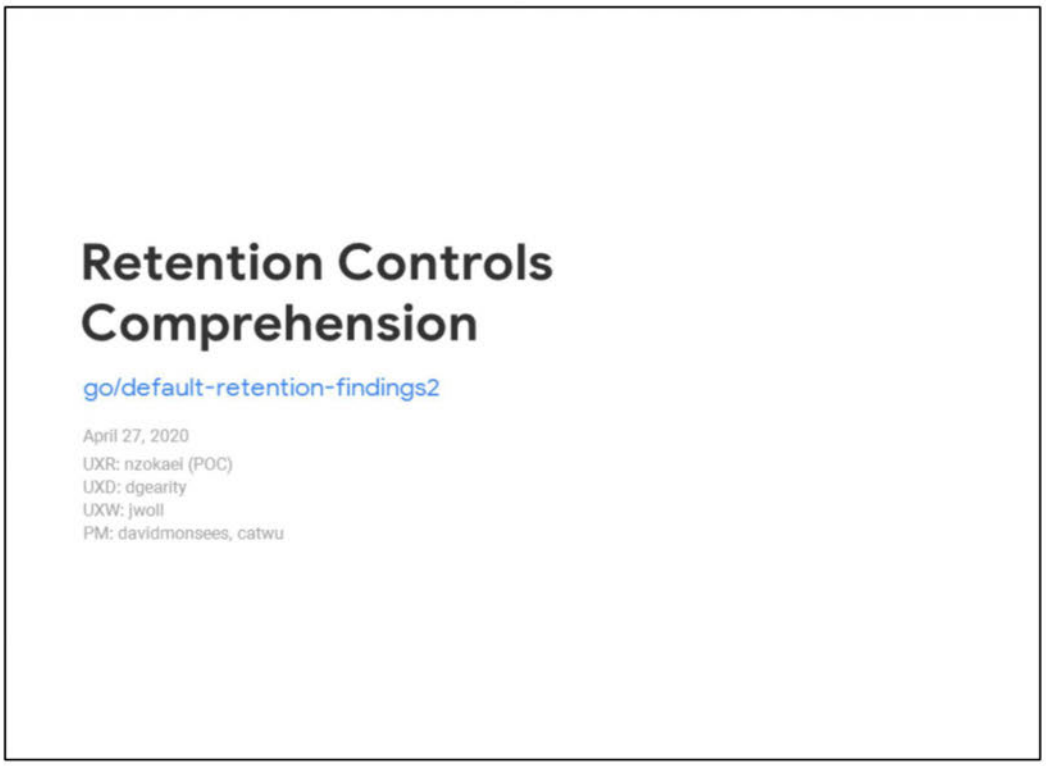
EXHIBIT 42

MAO DECLARATION ISO PLAINTIFFS' MOTION FOR CLASS CERTIFICATION

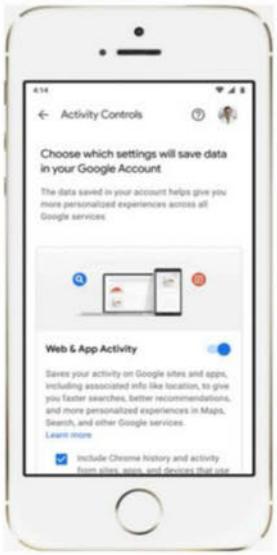
DOCUMENT SOUGHT TO BE SEALED


Retention Controls Comprehension
go/default-retention-findings2
April 27, 2020
UXR: nzokaei (POC)
UXD: dgearity
UXW: jwoll
PM: davidmonsees, catwu

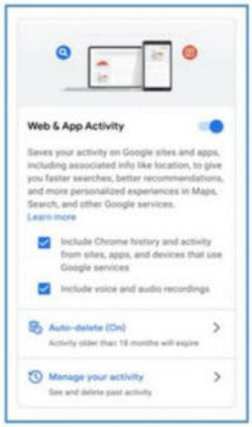
Default Retention in Settings UI

In past research we have seen that showing retention controls on the Activity Controls page makes user more aware of this function and gives them more sense of control over their data. (Retention in Setting UI Research)

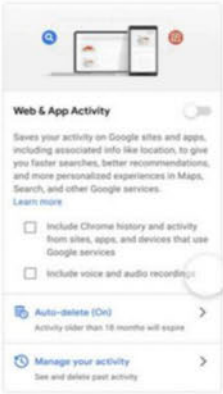
In this study we want to get an understanding of users' mental model of the control hierarchy and see if users have correct understanding of the relationship between the different controls on the page (collection on/off, DR on/off).



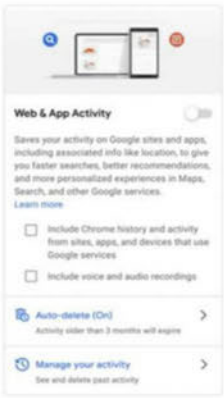
What we tested



Turn off WAA

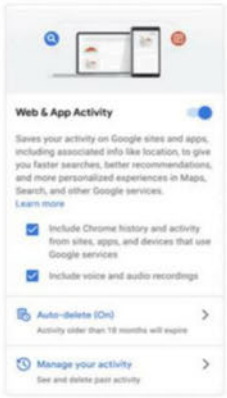


Change Retention

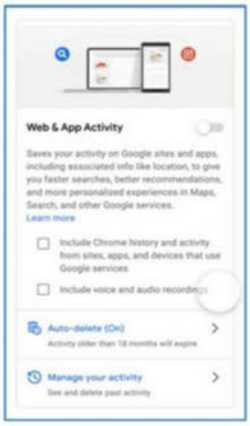


WAA off and No data

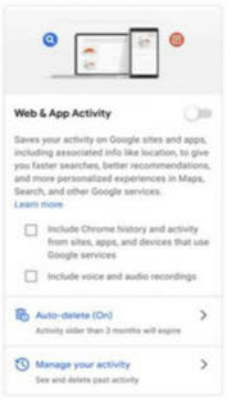
What we tested



Turn off WAA

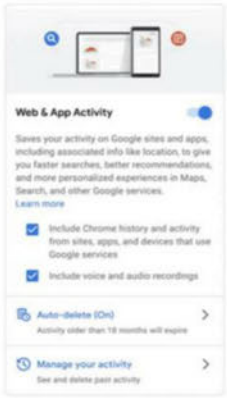


Change Retention

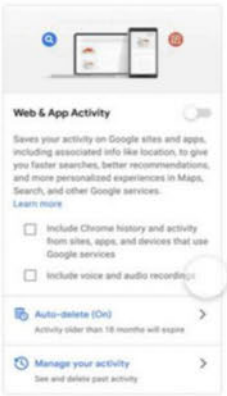


WAA off and No data

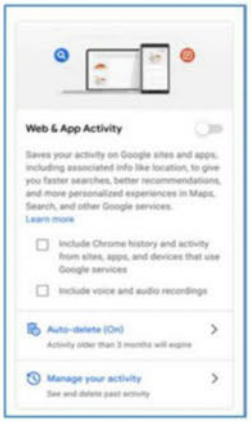
What we tested



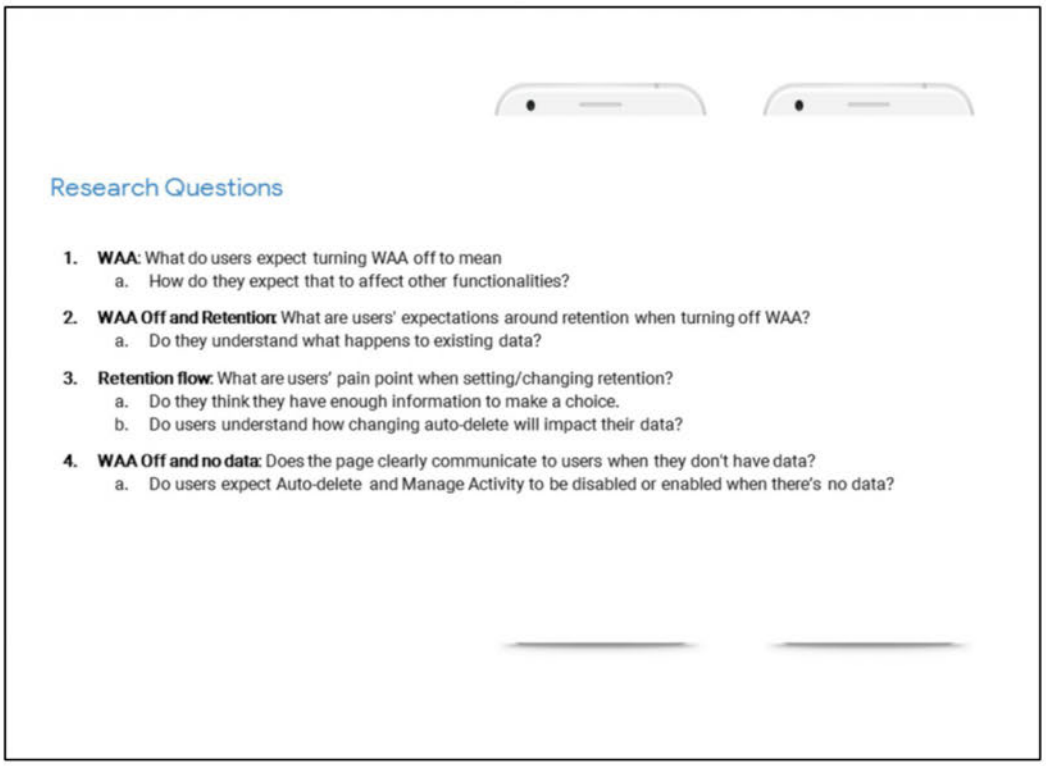
Turn of WAA



Change Retention



WAA off and No data


Research Questions
1. WAA: What do users expect turning WAA off to mean
a. How do they expect that to affect other functionalities?
2. WAA Off and Retention: What are users' expectations around retention when turning off WAA?
a. Do they understand what happens to existing data?
3. Retention flow: What are users' pain point when setting/changing retention?
a. Do they think they have enough information to make a choice.
b. Do users understand how changing auto-delete will impact their data?
4. WAA Off and no data: Does the page clearly communicate to users when they don't have data?
a. Do users expect Auto-delete and Manage Activity to be disabled or enabled when there's no data?

Methods

For more detail, see study plan, moderator guide, and raw videos

Participants

9 Participants (5 female, 4 male)

30 minute interviews

See here for participant demographics

Procedure

1. Background questions
2. Reaction to Activity Controls page
3. Expectation of WAA Off
4. Retention Flow walkthrough
5. WAA off and No Data Scenario

Participants

PID	Gender	Age	Occupation	Device type	Tech knowledge	Does Google store data?
1	Male	51 to 60	Mental Health Counselor	Android	Very knowledgeable	Yes
2	Female	31 to 40	Teacher	iPhone	Somewhat knowledgeable	Yes
3	Female	24 to 30	Director of Academic Services	iPhone	Very knowledgeable	Yes
4	Male	31 to 40	Musician	iPhone	Somewhat knowledgeable	Yes
5	Female	51 to 60	Volunteer Management	Android	Somewhat knowledgeable	Yes
6	Male	31 to 40	Grad Student -- Chinese Medicine	Android	Somewhat knowledgeable	Yes
7	Female	18 to 23	Customer service	Android	Very knowledgeable	Yes
8	Male	51 to 60	Manager Labor Analytics	iPhone	Somewhat knowledgeable	Yes
9	Female	31 to 40	Registered Nurse	Android	Very knowledgeable	No

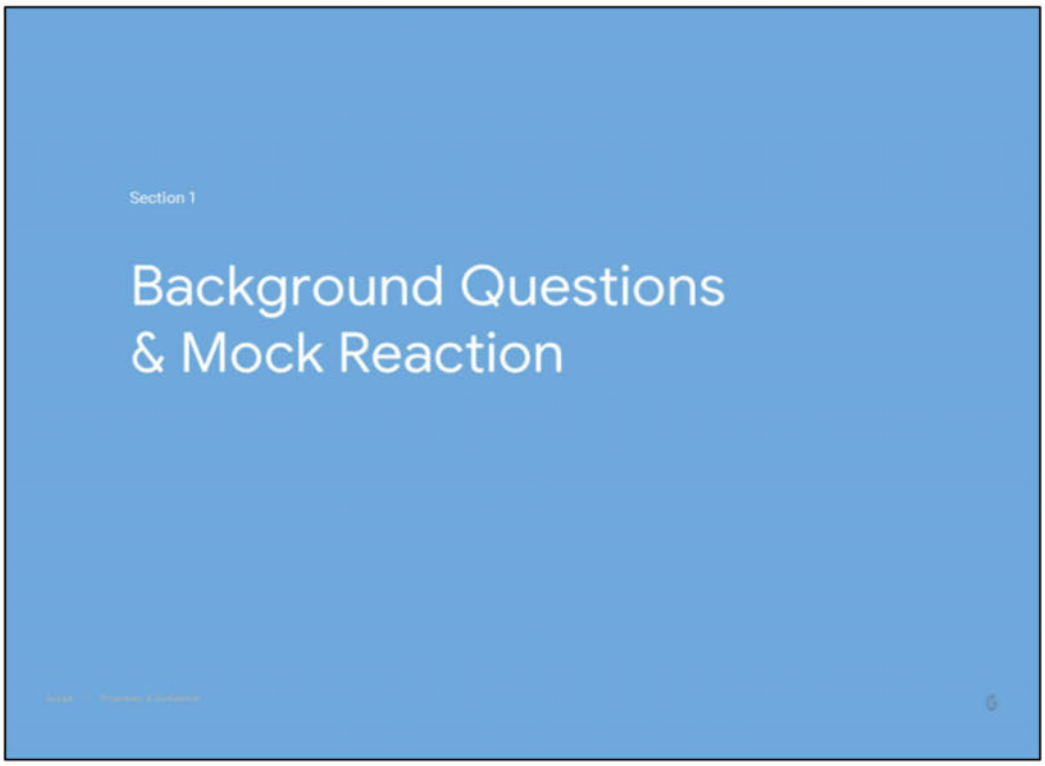
Findings Summary

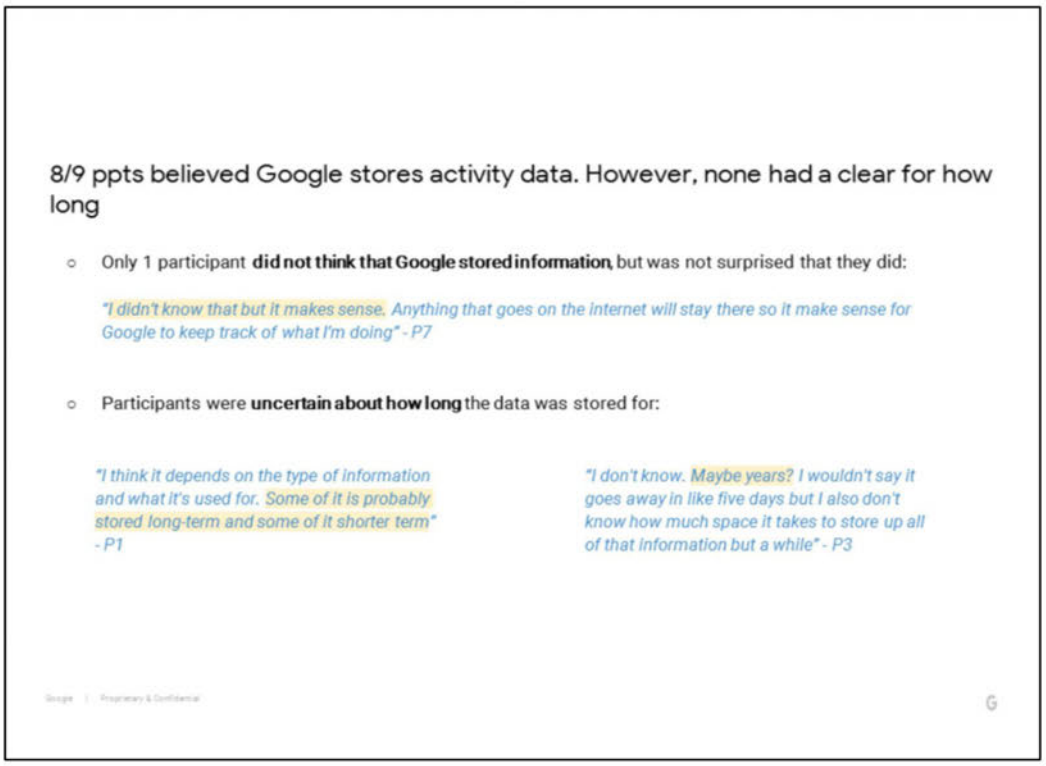
Overall Reaction to Activity Controls:

1. At first glance participants easily noticed the main functionalities available on the Activity Controls page
2. What type of data Web and App activity includes was a big question for many participants
3. Participants desired an easy way to access their activity controls and were not sure how they could do that today.

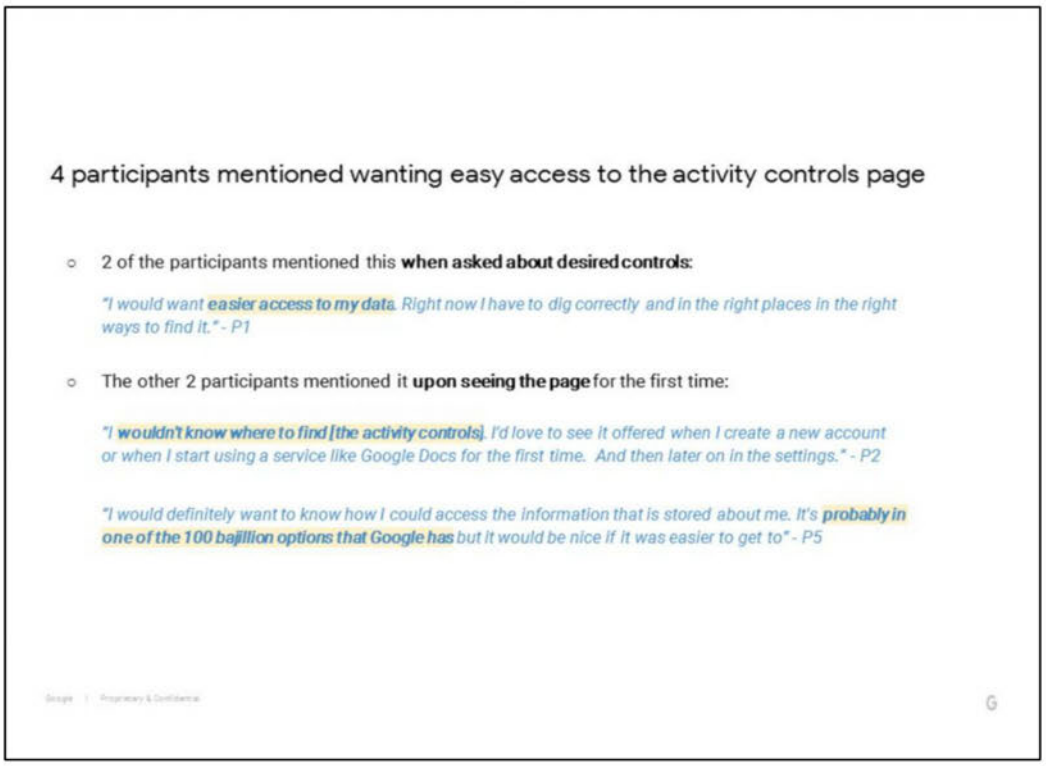
Controls Comprehension:

1. **WAA Toggle Off:**
   a. All participants expected turning WAA toggle off to stop saving their activity
   b. Half of the participants expected Auto-delete and Manage activity to no longer be available when toggle is off
2. **WAA Off + AD:**
   a. Overall some participants had difficulty understanding the relationship between WAA Off and the auto-delete function
3. **Auto-delete flow:**
   a. Participants found the auto-delete flow to be clear and straightforward over all
   b. Some questions regarding choices offered and what data was being auto-deleted did come up
4. **WAA Off + No Activity:**
   a. Participant found Auto-delete enabled when they had no activity to be confusing and unintuitive
   b. All participants preferred the auto-delete disabled design because it clearly communicated that they no longer had activity


Section 1
Background Questions
& Mock Reaction



I'm pretty familiar with going to my account and deleting information I dont wat and turning things on and off. and I normally go about once a month and clear my history.



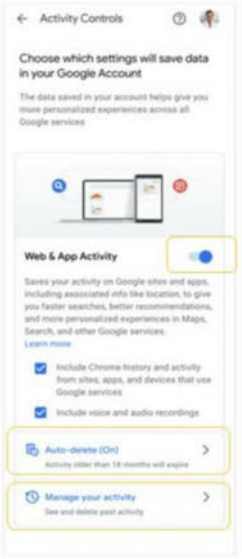
I'm pretty familiar with going to my account and deleting information I dont wat and turning things on and off. and I normally go about once a month and clear my history.

When presented with the Activity Controls page, participants easily noticed the 3 main controls offered on the page

When exploring the page all participants mentioned on/off toggle, Auto-delete and Manage activity.

Some were even **pleasantly surprised to see the auto-delete function**:

*"**I can even auto-delete my data. I really like that!** It's interesting about the 'activity older than 18 months expiring'. It's goes contrary to the indefinite that I thought."*
- P1



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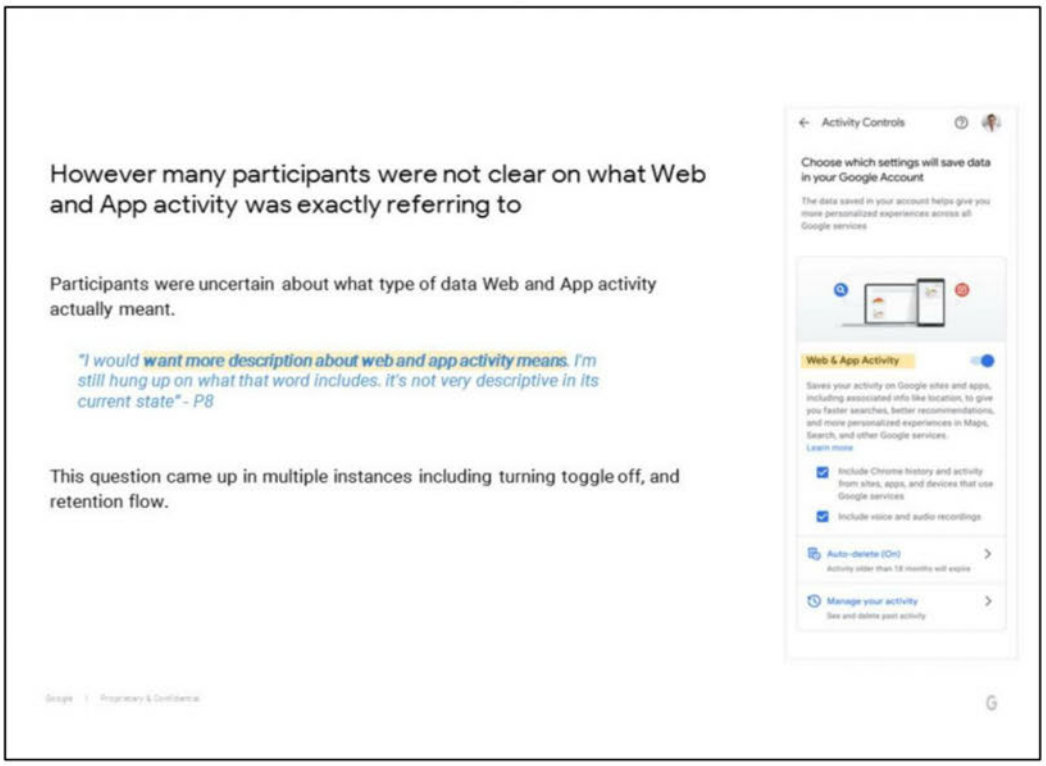
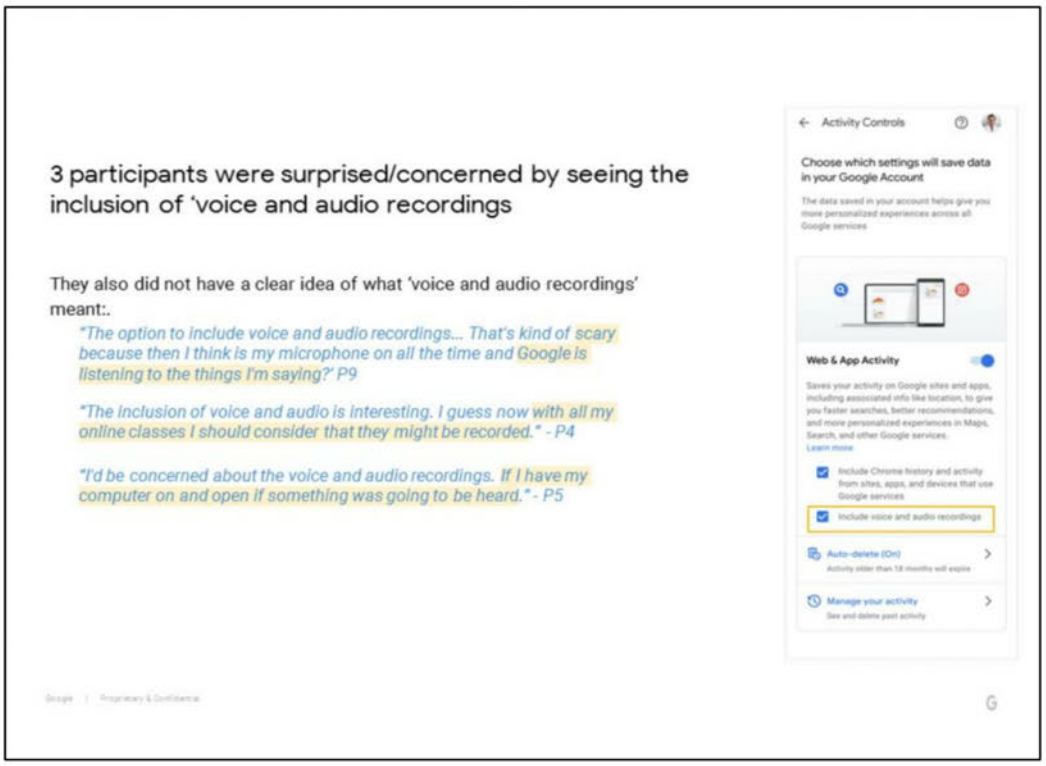


Users quesiton around WAA came up in different stages. Picking and AD option, not knowing what is deleted, etc.



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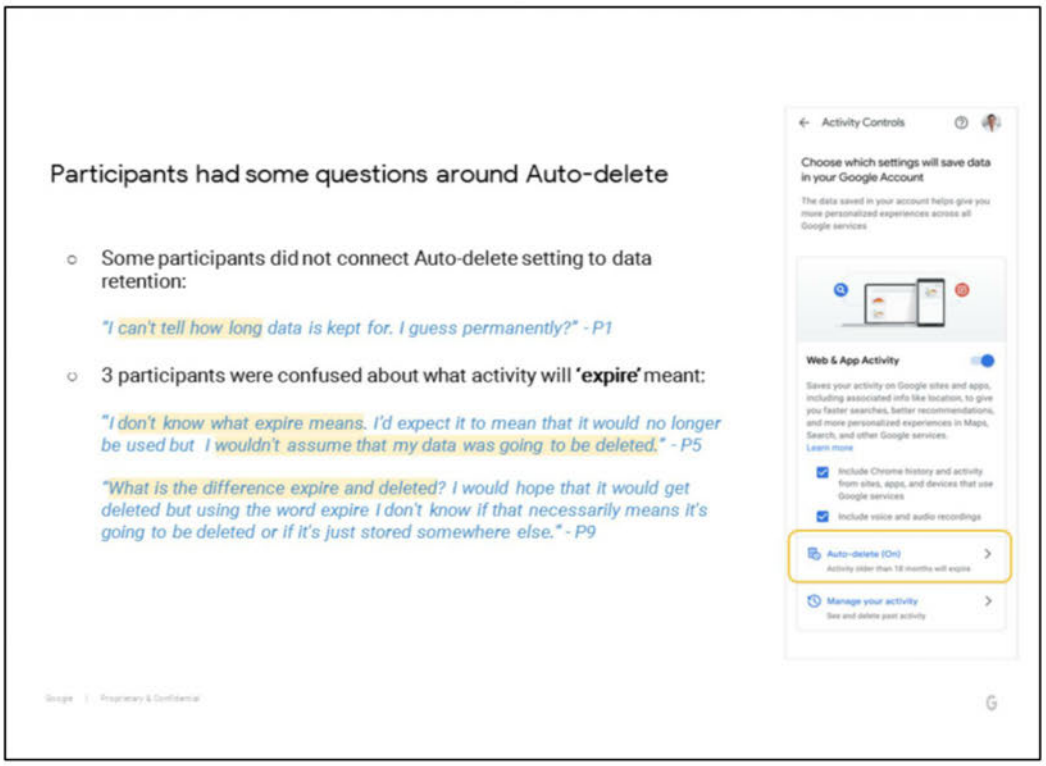

I'm pretty familiar with going to my account and deleting information I dont wat and turning things on and off. and I normally go about once a month and clear my history.

Id	Date	Text
1	04/27/2020 22:35:52	Good feedback, our new string explicitly says "Deleting activity older than 18 months" which hopefully addresses this

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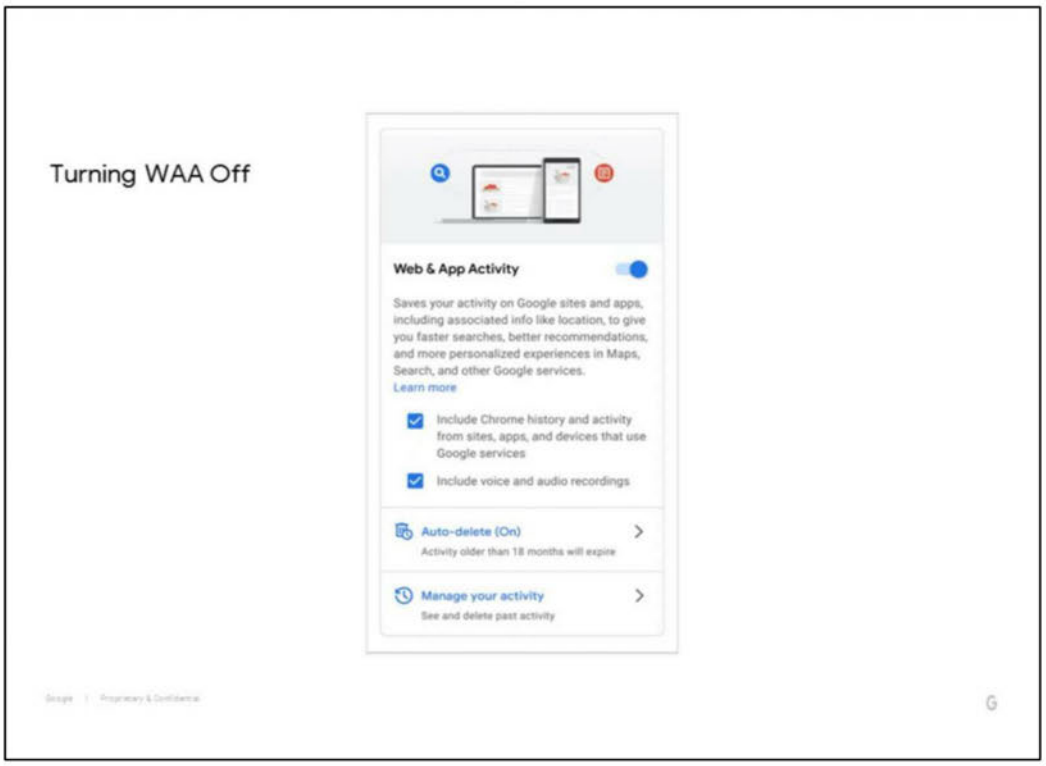
Section 2
Controls Expectations
& Comprehension
6



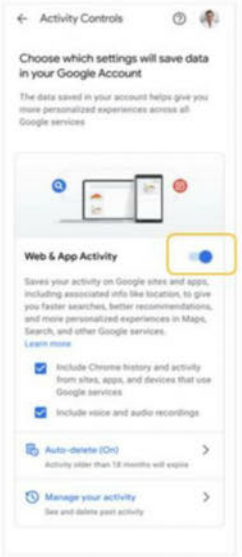
I'm pretty familiar with going to my account and deleting information I dont wat and turning things on and off. and I normally go about once a month and clear my history.

Turning WAA Off

All participants expected turning off toggle to stop their activity from being saved

*"I would assume that whatever data was pumping out from like me using web browser **would no longer be recorded** assuming I actually trusted that Google won't save anything." - P4*

*"It will **stop giving google permission to store my activity.** It would kind of be similar to incognito mode. It wouldn't be saving all that stuff so that I wouldn't get customized ads." - P1*

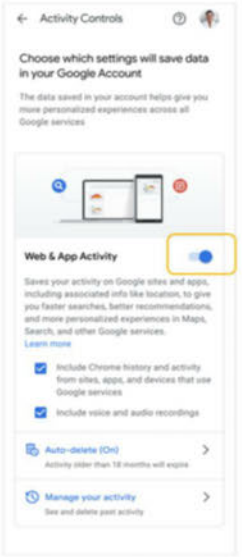


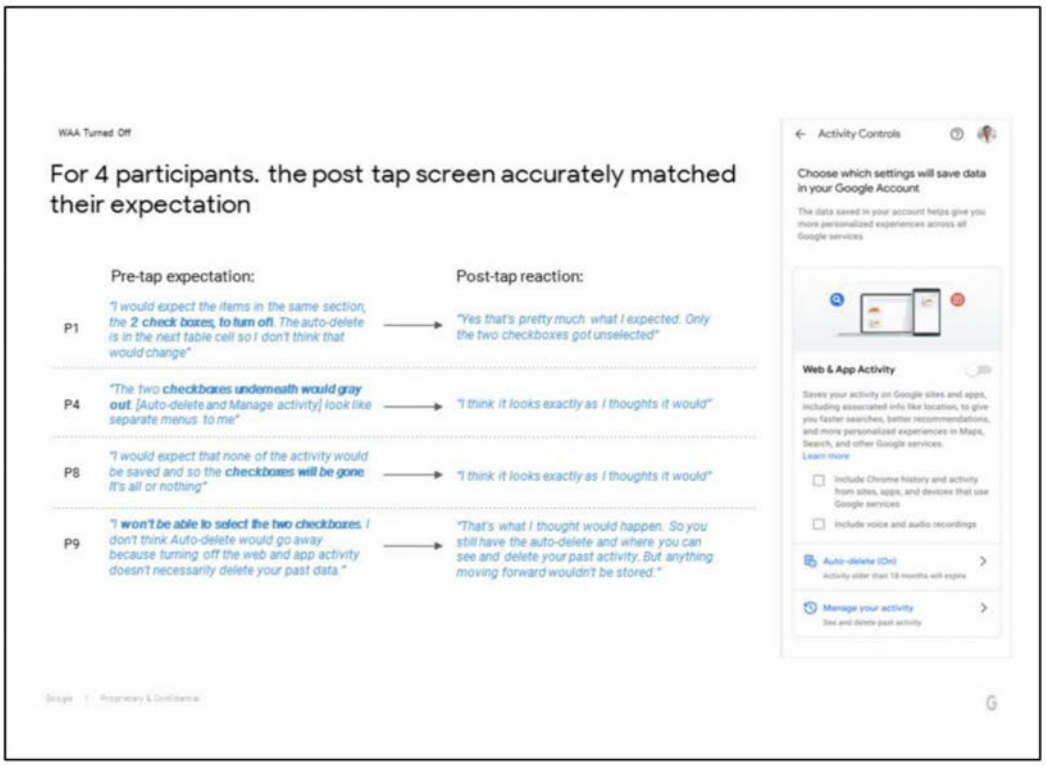
Turning WAA Off

2 participants were doubtful that no activity would be collected at all

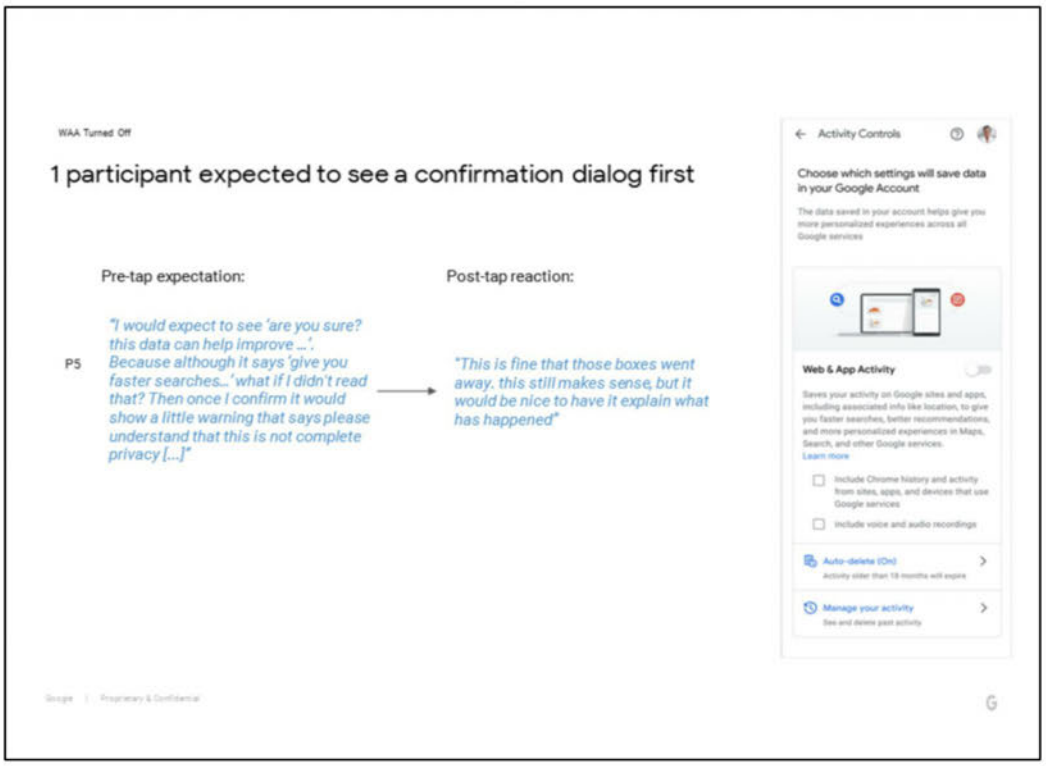
"I don't think it would save it. But ***that doesn't mean that it doesn't collect the information*** *during the time of the use but that as soon as I'm finished or exit it deletes it" - P1*

"I don't 100% trust that it wouldn't store anything. Not because I'm a distrustful person but ***because there are conditions by which I should not be allowed to turn that off.*** *For example, activity that may be nefarious still has to be superseded because Google still has work hand in hand with government agencies that are providing oversight" - P5*





would expect that. None of this activity would be saved and so it's not a an al a Carte menu, but it's it's all or nothing



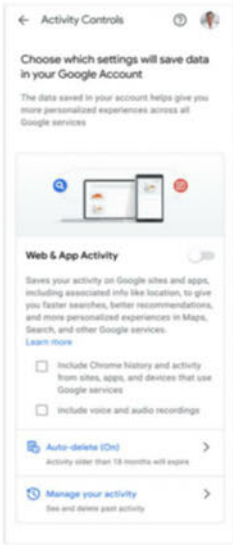
would expect that. None of this activity would be saved and so it's not a an al a Carte menu, but it's it's all or nothing

WAA Turned Off

Others expected the auto-delete and manage activity to no longer be available

Pre-tap expectation:

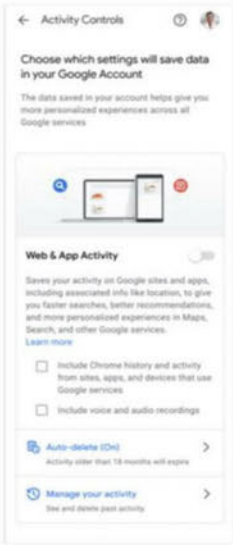
P3	*"I imagine it would get collapsed so I wouldn't see anything I got underneath"*
P7	*I would expect all the options under it to probably go away but I'm not too sure.*
P2	*"I expect the blue toggle to go grey and anything that was in the screen to shrink up."*
P6	*"I expect that if I turn it off the other options would no longer be applicable."*



WAA Turned Off

Upon tapping the toggle, 2 of the 4 participants understood why those controls would still be available

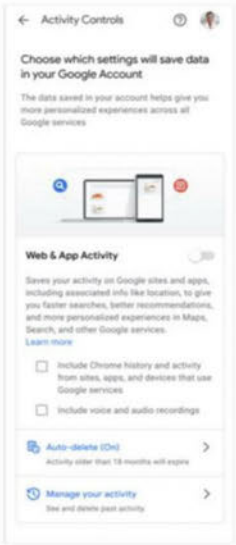
	Pre-tap expectation:		Post-tap reaction:
P3	*"I imagine it would get collapsed so I wouldn't see anything I got underneath"*	→	*"I'm wondering why auto-delete and manage activity is still there? I'm assuming because it won't record activity moving forward, but you still have the option to go in and manage your activity up until that point"*
P7	*I would expect all the options under it to probably go away but I'm not too sure.*	→	*"I can still Auto-delete and Manage activity. I guess that makes sense you can go see past activity"*
P2	*"I expect the blue toggle to go grey and anything that was in the screen to shrink up."*		
P6	*"I expect that if I turn it off the other options would no longer be applicable."*		



WAA Turned Off

But the other 2 participants were still not sure how Auto-delete and Manage activity would be applicable

	Pre-tap expectation:		Post-tap reaction:
P3	*"I imagine it would get collapsed so I wouldn't see anything I got underneath"*	→	*"I'm wondering why auto-delete and manage activity is still there? I'm assuming because it won't record activity moving forward, but you still have the option to go in and manage your activity up until that point"*
P7	*I would expect all the options under it to probably go away but I'm not too sure.*	→	*"I can still Auto-delete and Manage activity. I guess that makes sense you can go see past activity"*
P2	*"I expect the blue toggle to go grey and anything that was in the screen to shrink up."*	→	*"I would've imagined the other two wouldn't be an option anymore. Maybe it means I can personalize it. I can go and turn voice and audio on but not have others off?*
P6	*"I expect that if I turn it off the other options would no longer be applicable."*	→	*"I'm not sure what I would be able to do with auto-delete if nothing is being saved. I feel like that should no longer be relevant.*



Id	Date	Text
1	04/28/2020 16:15:34	Collapsing the checkboxes when WAA off is an interesting concept. I'm less inclined to hide the "auto-delete" and "manage" links because they provide key awareness for supplemental controls. My assumption would be (and this is based in some research) that knowing you can delete activity will makes users more comfortable with allowing collection to be on.
2	04/28/2020 17:01:04	wonder if we could do a better job communicating that the subsettings are disabled when WAA OFF +dgearity[redacted]
3	04/28/2020 17:01:04	+1 to only doing this for checkboxes. i like disabling auto-delete (prioritizing awareness) and having myActivity stay available (since we want to make it useful even in the no data staet)

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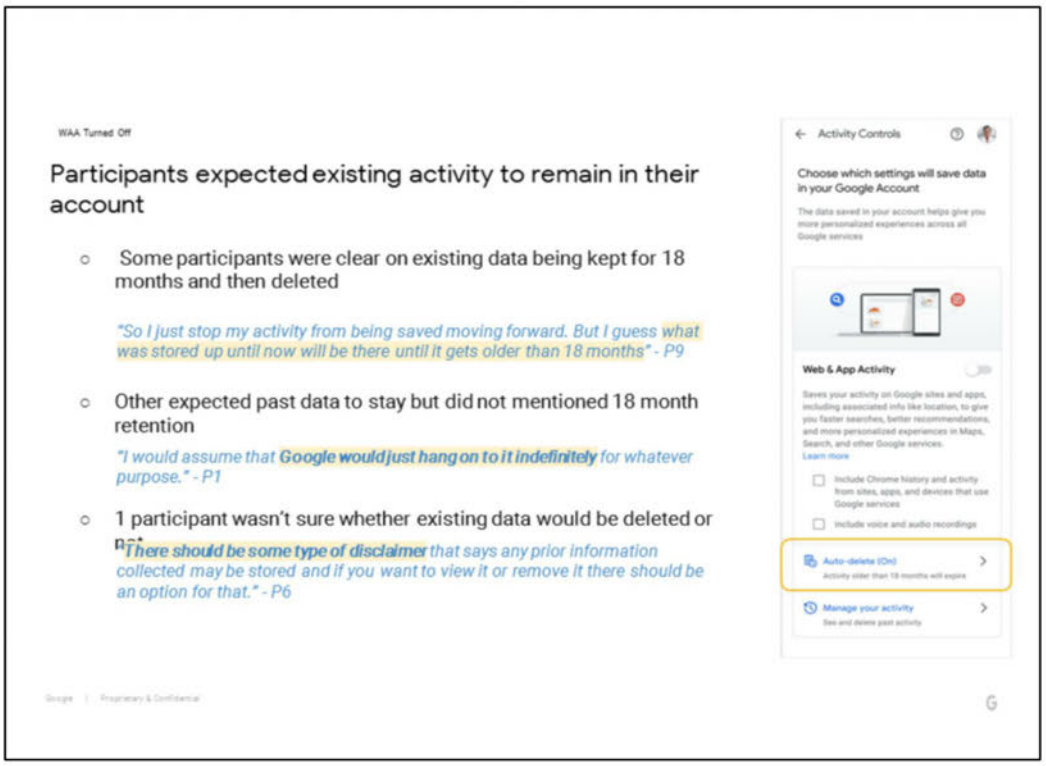

I wouldn't necessarily think that it goes away completely unless there's another option that says delete past activity.

Id	Date	Text
1	04/27/2020 23:10:49	This is after they have turned off toggle but have not changed AD
4	04/28/2020 17:00:23	is this when looking at the mock, eg when they se Auto-delete ON?
5	04/28/2020 17:00:23	got it - glad their expectations match reality :)

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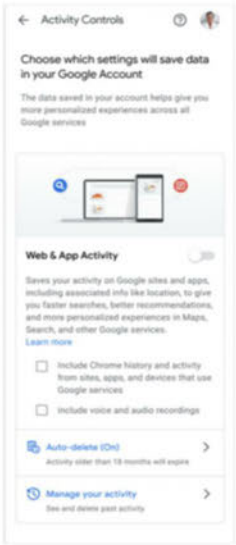
WAA Turned Off

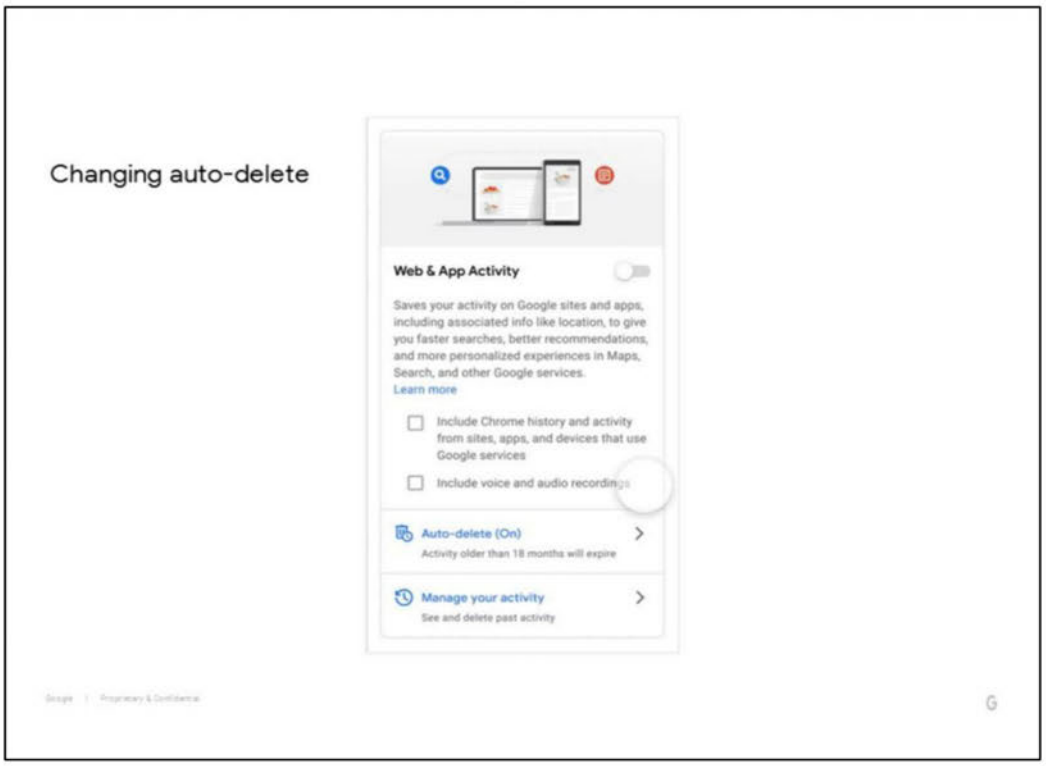
Participants were able to eventually reach the correct understanding around the auto-delete setting and their existing data

After talking through the information on the page and their expectations with the Auto-delete control, participants seemed to have a grasp on what was happening to their existing data:

> *"So if you disabled web activity today, but you have history recorded from yesterday and earlier auto-delete is still relevant. After all history deleted it's not going to record anything further. So then the auto-delete function is a moot point because it's not recording anything" - P3*

> *"Because Auto-delete is on it means that there is still data from 18 months prior before I turned it off" - P5*





so if you disabled your web activity like today, but you know from yesterday and like earlier you have history recorded that auto-delete is still relevant because if you had set it up to delete your history every week and it would Do that and then after history deleted it's not going to record anything further. So then that you know how to delete function really is a moot point because it's not recording anything but at least it's there but to delete any previous activity. So Perhaps, it would be great out or it can say like you have no like history recorded or something like with that language. So they realize like you don't have any history which actually would be comforting to some people because if they saw that auto DeLeon and they know they're not selecting to have their history recorded then they might think that Google's lying. So maybe it should be grayed out or there should be some note saying like you don't have any history,

WAA Turned Off + Changing Auto-delete

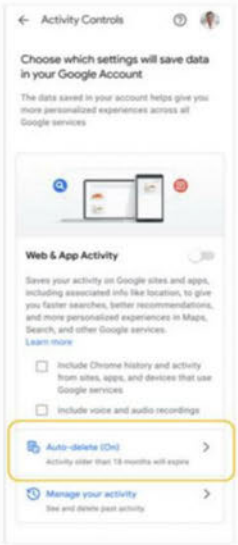
Most participants expected to see additional time options when they tap on Auto-delete

"I wonder if it would give me options for other times and I can select different times like 6 months or older or 12 months or older 18 months two years..." - P9

"If I clicked on that I would have the option to actually turn it off or maybe choose six months instead of 18 months." P2

1 participant thought there would **only be an on/off option:**

"There would probably be an interesting blurb that says this is what Auto-delete really does if you turn it off because it's turned on" - P5



WAA Turned Off + Changing Auto-delete

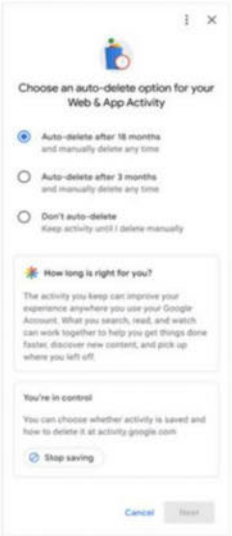
Participants found the choice screen pretty straightforward

- Some participants expected to more options including 'Delete all':

  "I thought it would give me more options. There's a big gap between 3 months and 18 months. and manually deleting sounds very tedious. I would want to have an option that lets me delete all of the activity that's left" - P9

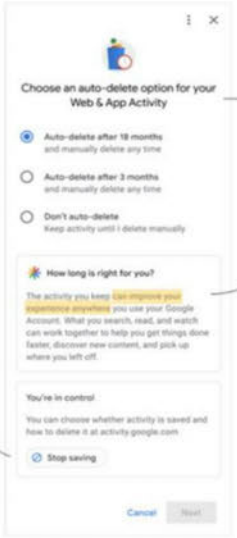
- But the participant who had only expected On/Off options was happy about the additional time options

  "I didn't expect so many options. I just thought that like the 18 months one would be the singular option." - P5



WAA Turned Off + Changing Auto-delete

Other points that came up...



What's being deleted? (x3)
"I want t more description about web and app activity is. What will actually be deleted? I would be hesitant to have it auto-delete and then lose something that I wanted to keep"

How will it improve the experience?
"What does it means when it says 'can improve your experience anywhere'? Makes me wonder if it's what people complain about targeted ads popping up because their phone is always listening"

Stop saving should be with the other options (x2)
"I don't understand why this is at the bottom of the page, it feels like it should be the first option. Don't save .. Don't auto-delete"

WAA Turned Off + Changing Auto-delete

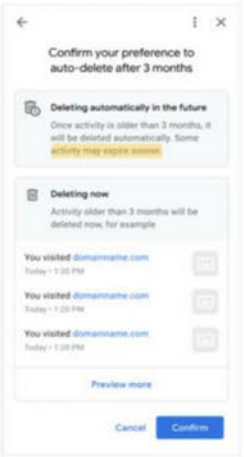
Participants were clear on what the confirmation page was communicating

- The separate sections helped participants understand how data moving forward vs existing data would be affected

  "The top is talking about future state. It's deleting everything older than three months so tomorrow one day more would be deleted, And below it's a really nice feature that offers the preview. I would probably look to makes sure nothing is being deleted that I don't want deleted" - P5

- But 2 participants were **confused about why 'some activity may expire sooner'**

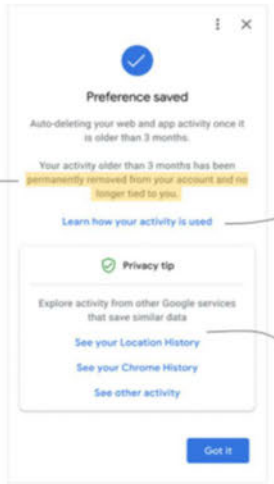
  "I would have a question about the 'some activity may expire sooner'. Not sure what it means by that. Why would it expire sooner than another activity if I've chosen three month" - P2



Id	Date	Text
6	04/28/2020 16:59:52	+1 +jwoll[redacted] +davidmonsees[redacted]com is this line necessary? what's the scenario we're accounting for?
1	04/28/2020 17:59:17	I agree about the ambiguity of "expire." Thanks Luis for pointing it out. Cat, I think this screen is intended to create extra friction for an irreversible user action with significant consequences.
7	04/28/2020 18:34:06	Sorry, I meant for the line with "may expire sooner" specifically! Could we remove it?
2	04/28/2020 20:22:40	Was this in there for VAA? As in, "...may be deleted earlier, once they are no longer needed ..." I think it was in there for data that is automatically deleted because it's TTL is shorter or because it is no longer needed. +davidmonsees[redacted] Could you confirm?
1	04/29/2020 20:45:14	+catwu[redacted] For you to think about. We use "expire" here again, and I agree that it's pretty confusing what that actually means
8	04/29/2020 20:45:14	we cleaned up the text to be clearer "may be deleted earlier, if it's no longer needed". thanks for flagging!

WAA Turned Off + Changing Auto-delete

Final retention page



What happens to activity

"In the initial page they use 'expire' I don't know when something expires does that mean that it's deleted or is it one of those loophole words, but ***knowing that it's permanently removed makes me feel better. They should've explained this sooner****" - P9*

Learn how activity is used

"I like that I can 'Learn how your activity is used'. I think that should have been offered earlier because if I knew how my data was being used then it would probably impact which option I chose" - P3

Activity from other Google services

"When it says Web and App I thought things like location and chrome were included. But here it looks like those are separate? ***So which apps are included and which aren't?****" - P7*

Id	Date	Text
3	06/30/2021 15:32:00	another takeaway can be that maybe educational onward journeys can be surfaced before an action has been taken (ex. during the retention journey but before they have set retention)
2	07/12/2021 20:02:57	[redacted]isabellezhou[redacted].com Here is a similar insight around user confusion
1	07/12/2021 20:02:57	This is insightful - it also aligns with what was surfaced about user trust/education during the brainstorm session :)

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WAA Turned Off + Auto-delete Changed

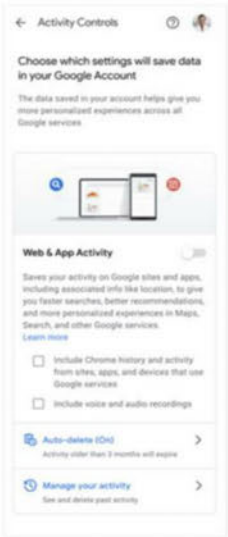
When WAA was turned off and Auto-delete was changed to 3 months, some participants still had difficulty understanding what was happening to their activity

Some participants had difficulty distinguishing that the toggle impacts data collection moving forward whereas auto-delete can be working on existing data

"Having toggled this off I'm under the impression that it's still saving my data but only for 18 months, or now 3. But that doesn't seem to be logical because ***it's turned off so my choice of going ahead and letting it go in 3 months should be turned off as well*** *" - P8*

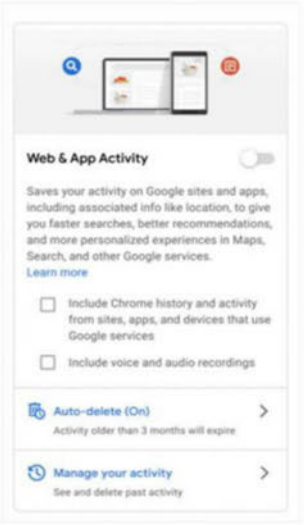
"My activity is not being saved at all. Even though later I chose 3 months, the off toggle supersedes that. ***I'm not sure what the difference is between activity not being saved and this activity is going to expire not sure why I would have any activity because I've already turned it off"*** *- P2*

"The data I had that was more than three months old is now deleted and tomorrow, there'll be one more day that's deleted that. But ***the information isn't being saved anyway, why would the auto-delete be necessary?*** *it's kind of like you do one or the other." - P5*



WAA off and No activity

(coming back to page after 6 months)



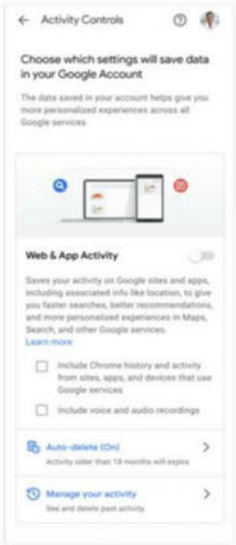
WAA Turned Off + No Activity

When asked about their expectation if they were to come back to this page in 6 months, 2 participants explicitly mentioned expecting no activity to be remaining

"I would expect that when I tap on manage my activity that there would be less activity because it's being auto-delete. Well I guess ***in 6 month there shouldn't be any at all."*** *- P3*

1 of the participants even expected **auto-delete to be disabled**

"All of the history should be deleted and it's not recording anything further. So the delete function is a moot point. So Perhaps, Auto-delete would be greyed out or say 'no history recorded' which actually would be comforting because if users saw auto-delete still on they might think that Google's lying." - P9



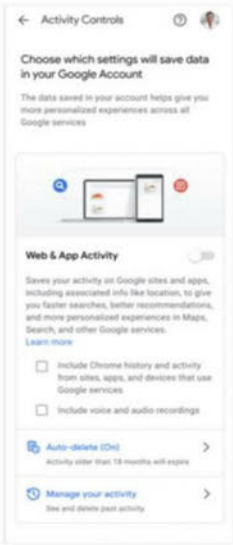
WAA Turned Off + No Activity

2 participants expected to be able to see the last date of setting configuration

These participants wanted to know when they had last changed their settings so they could be able to know if they should have any data or not.

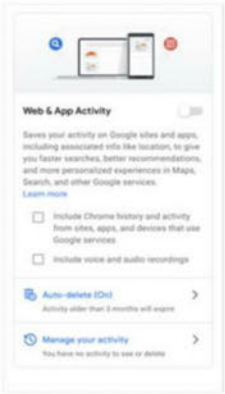
"I would expect this page to say you turned this off 90 days ago or 60 days ago. ***So I can know how much data I should expect to have.*** *" - P8*

"I would want to know when I changed that setting in case I forget. So if I was wondering why I couldn't see my history from. April 24th ***I would remember that I turned it off on the 23rd.*** *" - P1*

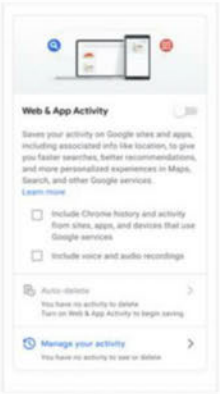


WAA Turned Off + No Activity

Auto-delete enabled vs disabled



AD Enabled



AD Disabled

WAA Turned Off + No Activity

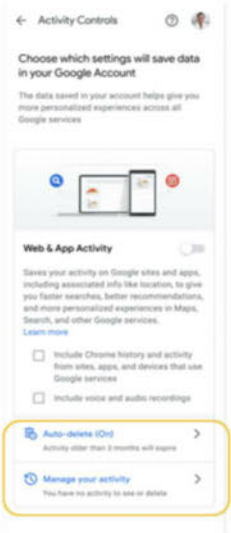
The enabled auto-delete made some participants believe they still had activity data

Participants found 'Auto-delete On' when they have no data to be unintuitive:

"I noticed that auto-delete is blue, which means that I had stuff older than 3 months that I didn't delete."

"In this case auto-delete says in 3 months will expire. We are at the point where I should have any data left? I would be confused by the auto delete comment here"

" The Auto-delete part would still be contradicting that there is not more data if I was looking at it 6 months later."

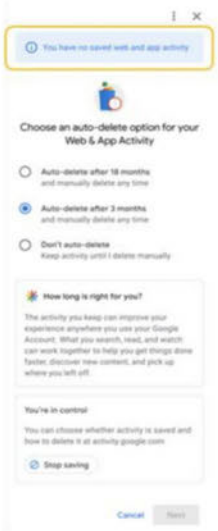


WAA Turned Off + No Activity

4/5 participants noticed the 'no saved activity' notice at the top of the page

They thought that made sense but 3 mentioned they would not want to have to click into this page before seeing that notice.

"Yeah that makes sense. That's what I expected to see in the first place. Not having to tap to another screen" - P5



WAA Turned Off + No Activity

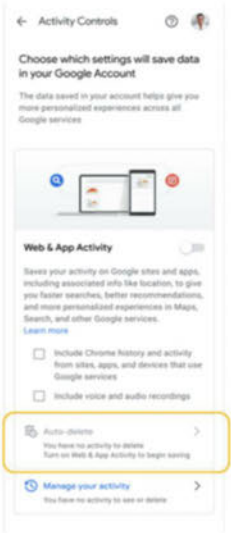
All participants preferred the disabled auto-delete design, because it was more informative of their activity state

The disabled Auto-delete made it clear that there was no activity to delete

"Having auto-delete disabled]makes more sense because if you come back 6 from now and you don't have any activity, it's unnecessary to have the auto-delete as an option. And you have to go to an extra page to be told you don't have data" - P5

"I have nothing to see or delete so why would I be able to tap on auto-delete? It make more sense for tit o be greyed out" - P1

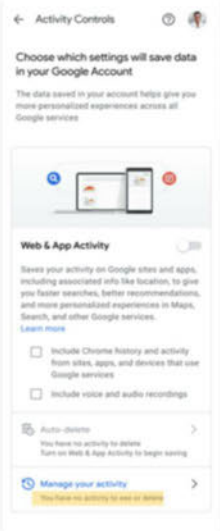
"[This screen] is better than what I expected because in retrospect if it still said activity older than 3 months was being deleted it would have been confusing" - P7

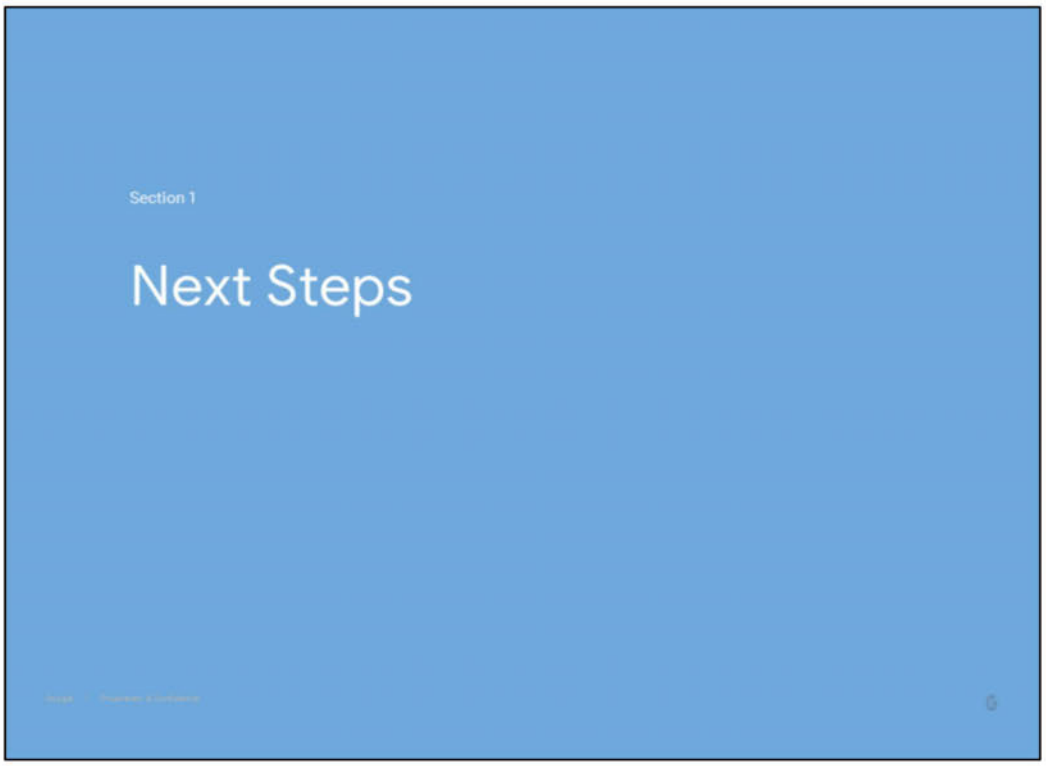


WAA Turned Off + No Activity

Only 1/9 ppt noticed the 'no activity' text in either design

- Almost none of the participants noticed the 'you have no activity to save or delete' subtext under Manage activity until it was pointed out to them.
- A few had indicated wanting to see that under Auto-delete




Section 1
Next Steps

Recommendations and next steps

[redacted]